

## National Profile

The **National Profile** section contains figures showing trends and the distribution of sexually transmitted diseases (STDs) by age, sex, race/ethnicity, and location for the United States. Where relevant, the figures illustrate progress towards specific objectives\* for the nation published in U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.

\* See the **Appendix** for a listing of the Healthy People 2010 objectives for the diseases addressed in this report.



## Chlamydia

*Chlamydia trachomatis* infections are the most commonly reported notifiable disease in the United States. They are among the most prevalent of all STDs and, since 1994, have comprised the largest proportion of all STDs reported to CDC (Table 1). In women, chlamydial infections, which are usually asymptomatic, may result in pelvic inflammatory disease (PID), which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. Data from a randomized controlled trial of chlamydia screening in a managed care setting suggest that such screening programs can lead to a reduction in the incidence of PID by as much as 60%.<sup>1</sup> As with other inflammatory STDs, chlamydial infection can facilitate the transmission of HIV infection. In addition, pregnant women infected with chlamydia can pass the infection to their infants during delivery, potentially resulting in neonatal ophthalmia and pneumonia.

The increase in reported chlamydial infections during the 1990s reflects the expansion of chlamydia screening activities, use of increasingly sensitive diagnostic tests, an increased emphasis on case reporting from providers and laboratories, and improvements in the information systems for reporting. However, many women who are at risk for this infection are still not being tested, reflecting, in part, lack of awareness among some health care providers and the limited resources available to support screening. Chlamydia screening and reporting are likely to expand further in response to the recently implemented Health Plan Employer Data and Information Set (HEDIS) measure for chlamydia screening of sexually active women 15 through 25 years of age who are provided medical care through managed care organizations.<sup>2</sup> To better monitor trends in disease burden in defined populations during the expansion of chlamydia screening activities, data on chlamydia positivity among persons screened in a variety of settings are used; in most instances, test positivity serves as a reasonable approximation of prevalence.<sup>3</sup> In parts of the United States where large scale chlamydia screening programs have been instituted, prevalence of the disease has declined substantially.

- In 2000, for the first time, all 50 states and the District of Columbia had regulations requiring the reporting of chlamydia cases to CDC (Figure 1, Table 4).
- In 2001, 783,242 chlamydial infections were reported to CDC from 50 states and the District of Columbia (Table 1). This case count corresponds to a rate of 278.3 cases per 100,000 population, an increase of 10.4% compared with the rate of 252.1 in 2000. The reported number of chlamydial infections was more than twice the number of reported cases of gonorrhea (361,705 gonorrhea cases were reported in 2001) (Table 1).
- From 1987 through 2001, the reported rates of chlamydial infection increased from 50.8 to 278.3 cases per 100,000 population (Figure 2, Table 1). The continuing increase in reported cases likely represents the further expansion of screening for this infection, the development and use of more sensitive screening tests, and more complete national reporting.
- For the years 1997-2001, the chlamydia rates in the Southern region of the United States (230.1, 268.4, 286.0, 285.5, 306.7 cases per 100,000 population,

respectively) were higher than the rates in any other region of the country (Figures 3 and 4, Table 4). The higher rates in this region likely reflect both an expansion of screening activities in the South and the high burden of disease in this region. Before 1996, reported chlamydia rates were highest in the West and Midwest, where substantial public resources had been committed for screening programs in family planning clinics.

- In 2001, the overall reported rate of chlamydial infection among women in the U.S. (435.2 cases per 100,000 females) was approximately four times higher than the reported rate among men (113.9 cases per 100,000 males), likely reflecting a greater number of women screened for this disease (Figure 5, Tables 5 and 6). The lower rates among men suggest that many of the sex partners of women with chlamydia are not diagnosed or reported. However, with the advent of the new, highly sensitive nucleic acid amplification tests that can be performed on urine, symptomatic and asymptomatic men are increasingly being diagnosed with chlamydial infection. From 1997 to 2001, the reported chlamydial infection rate in males increased by 61.6% (from 70.5 to 113.9 cases per 100,000 males) compared with a 27.3% increase in women over this period (from 341.8 to 435.2 cases per 100,000 females) (Tables 5 and 6).
- For women, the highest age-specific reported rates of chlamydia in 2001 occurred among 15- to 19- year-olds (2,536.1 per 100,000 females) and 20- to 24-year-olds (2,447.0 per 100,000 females). Age-specific reported rates among men, while substantially lower than the rates in women, were also highest in these same age groups (Figure 6, Table 11).
- In 2001, the reported rate of chlamydia among African-American females in the U.S. was nine times higher than the rate among white females (1,646.1 and 192.3 per 100,000, respectively) (Table 12B). The chlamydia rate among African-American males was 13 times higher than that among white males (531.8 and 42.2 per 100,000 respectively).
- Chlamydia screening and prevalence monitoring activities were initiated in Health and Human Services (HHS) Region X in 1988 as a CDC-supported demonstration project. In 1993, chlamydia screening services for women were expanded to three additional HHS regions (III, VII, and VIII) and, in 1995, to the remaining HHS regions (I, II, IV, V, VI, and IX). In some regions, federally-funded chlamydia screening supplements local- and state-funded screening programs.
- In 2001, the median state-specific chlamydia test positivity among 15- to 24-year-old women who were screened during visits to selected family planning clinics in all states and outlying areas was 5.6% (range 2.7% to 13.9%) (Figure 7). In nearly all states chlamydia positivity was greater than the HP2010 objective of 3.0%.<sup>4</sup>
- The effectiveness of large-scale screening programs in reducing chlamydia prevalence in women has been well documented in areas where this intervention has been in place for several years. For example, from 1988 to 2001, the screening programs in HHS Region X (Alaska, Idaho, Oregon, Washington) family planning clinics demonstrated a 59.2% decline in chlamydia positivity from 13.0% to 5.3% among 15- to 44-year-old women (Figure 8); chlamydia positivity was adjusted for changes in laboratory test methods and associated test sensitivity (see **Appendix**).<sup>5</sup>

- After adjusting trends in chlamydia positivity to account for changes in laboratory test methods and associated increases in test sensitivity (see **Appendix**), chlamydia test positivity decreased in five of 10 HHS regions from 2000 to 2001, increased in four regions, and remained the same in one region (Figure 8). Although chlamydia positivity has declined in the past year in some regions due to the effectiveness of screening and treatment of women, continued expansion of screening programs to populations with higher prevalence of disease may have contributed to increases in positivity in other regions.
- Additional information on chlamydia screening programs for women of reproductive age and chlamydia among adolescents and minority populations can be found in the **Special Focus Profiles**.

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<sup>1</sup> Scholes D, Stergachis A, Heidrich FE, Andrilla H, Holmes KK, Stamm WE. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *NEngl J Med* 1996;34(21): 1362-66.

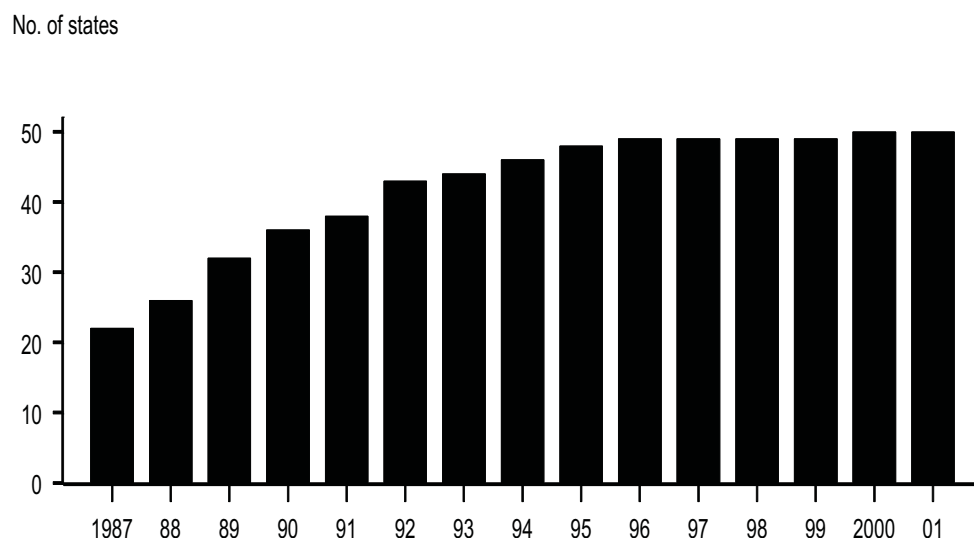
<sup>2</sup> National Committee for Quality Assurance (NCQA). *HEDIS 2000: Technical Specifications*, Washington, DC, 1999, pp. 68-70, 285-286.

<sup>3</sup> Dicker LW, Mosure D, Levine W. Chlamydia positivity versus prevalence: what's the difference? *Sex Transm Dis* 1998;25:251-3.

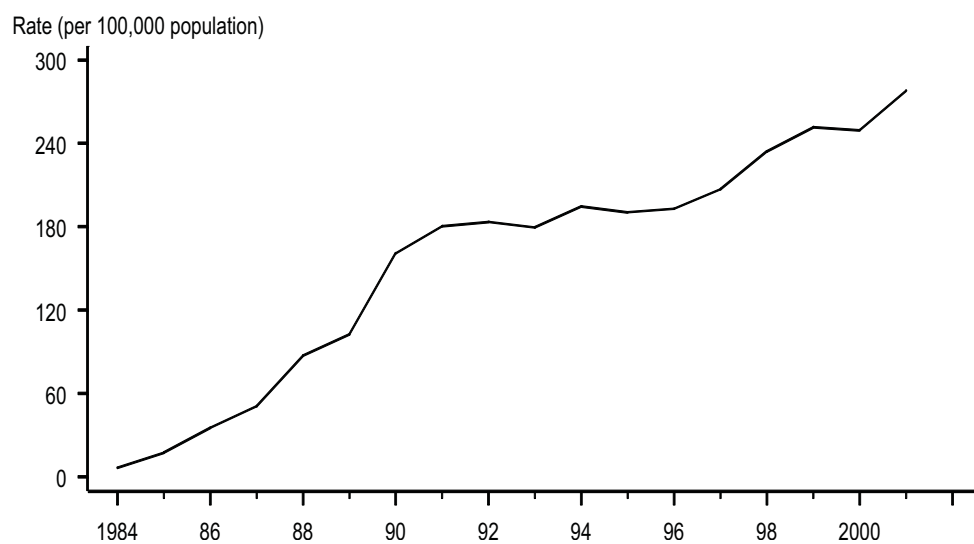
<sup>4</sup> U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.

<sup>5</sup> Dicker LW, Mosure DJ, Levine WC, et al. Impact of switching laboratory tests on reported trends in *Chlamydia trachomatis* infections. *Am J Epidemiol* 2000;51:430-5.

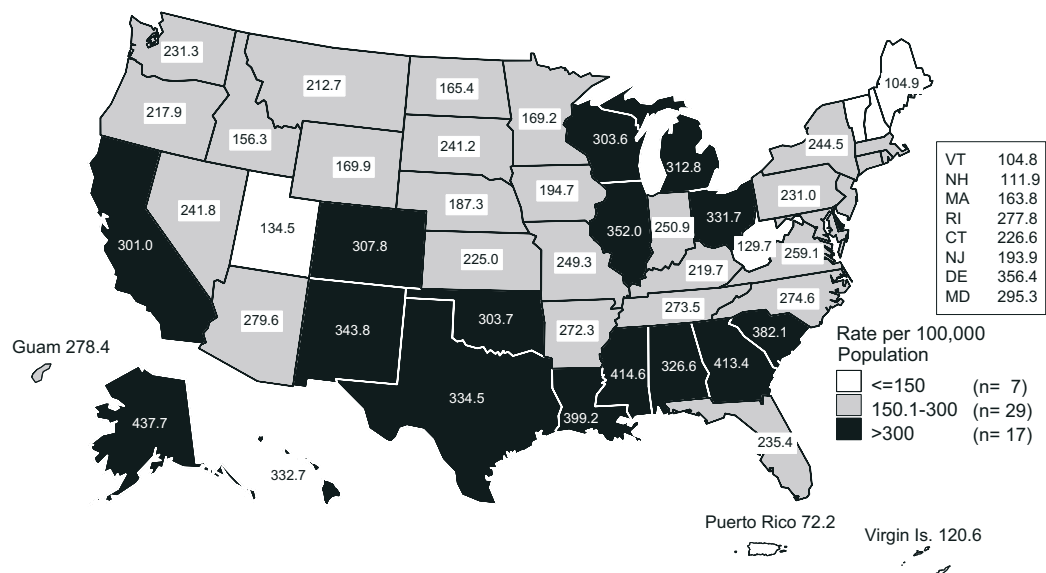
**Figure 1. Chlamydia — Number of states that require reporting of *Chlamydia trachomatis* infections: United States, 1987–2001**



**Figure 2. Chlamydia — Reported rates: United States, 1984–2001**

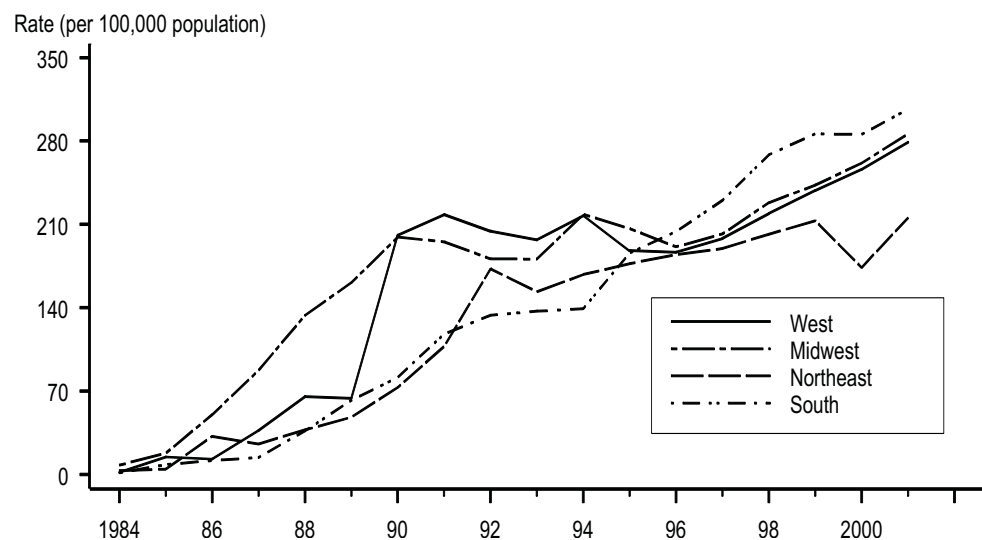


**Figure 3. Chlamydia — Rates by state: United States and outlying areas, 2001**

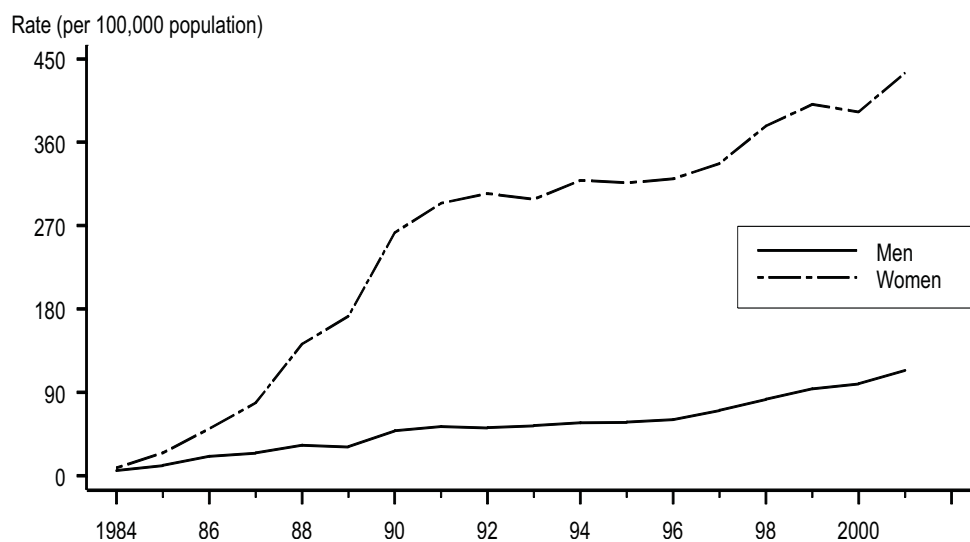


Note: The total rate of chlamydia for the United States and outlying areas (including Guam, Puerto Rico and Virgin Islands) was 275.5 per 100,000 population. For further information on chlamydia reporting, see the Appendix.

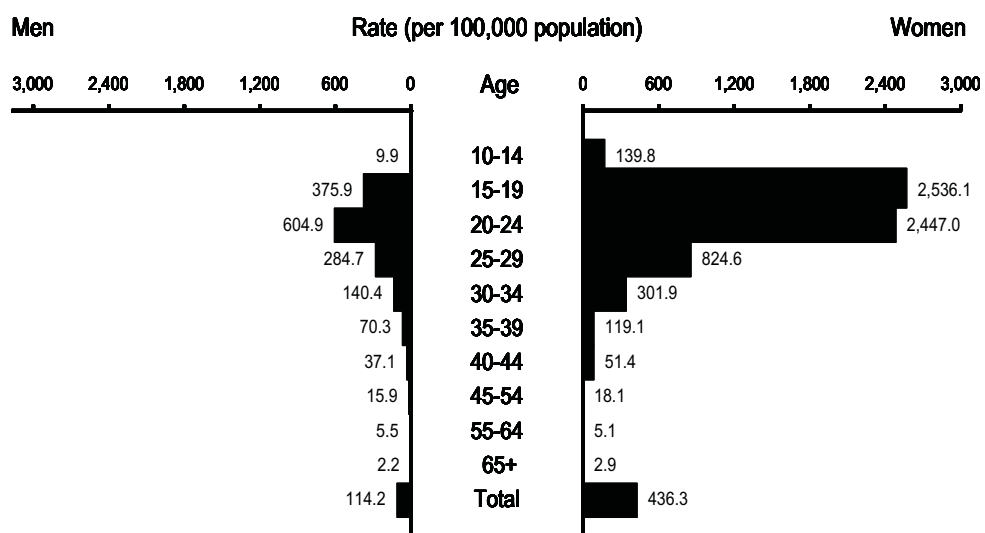
**Figure 4. Chlamydia — Rates by region: United States, 1984–2001**



**Figure 5. Chlamydia — Rates by sex: United States, 1984–2001**



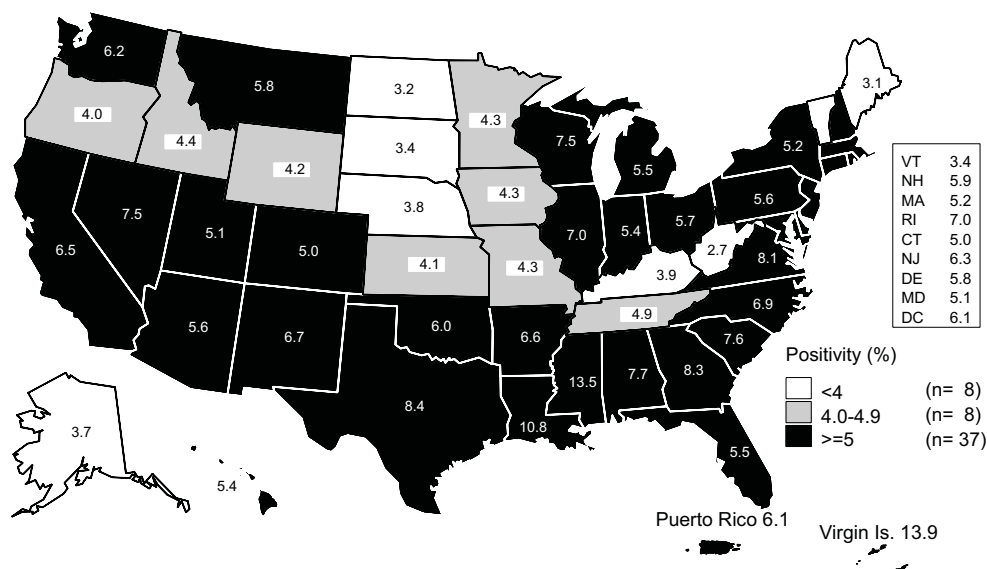
**Figure 6. Chlamydia — Age- and sex-specific rates: United States, 2001**



Note: See Table 11 and Appendix for more information.



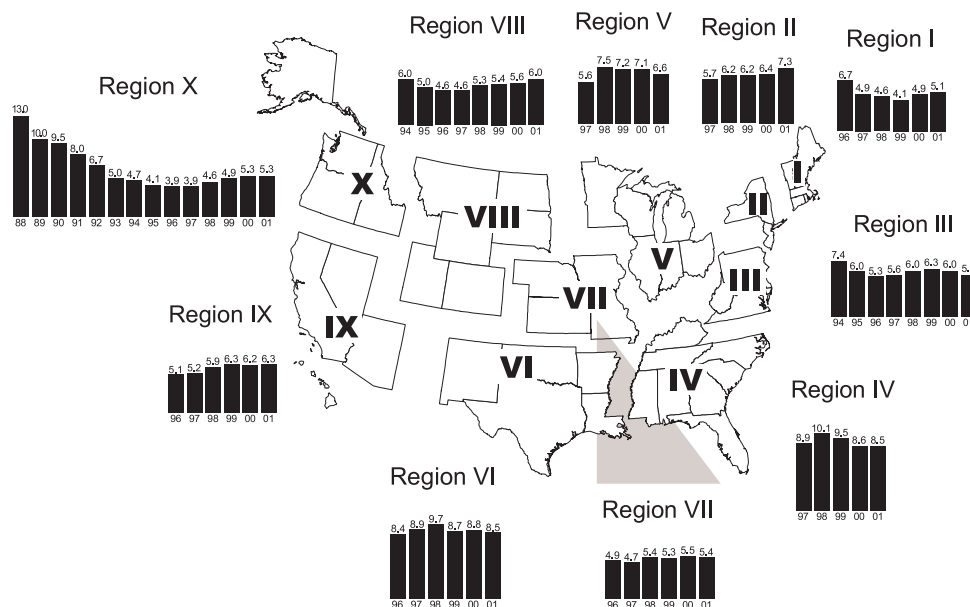
**Figure 7. Chlamydia — Positivity among 15-24 year old women tested in family planning clinics by state: United States and outlying areas, 2001**



Note: States reported chlamydia positivity data on at least 500 women aged 15-24 years screened during 2001.

SOURCE: Regional Infertility Prevention Program; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention

**Figure 8. Chlamydia — Trends in positivity among 15-44 year old women tested in family planning clinics by HHS regions, 1988-2001**



Note: Trends adjusted for changes in laboratory test method and associated increases in test sensitivity (see Appendix). No data on laboratory test method available for Region VII in 1995 and Regions IV and V in 1996. See Appendix for definition of Health and Human Services (HHS) regions.

SOURCE: Regional Infertility Prevention Program; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention

